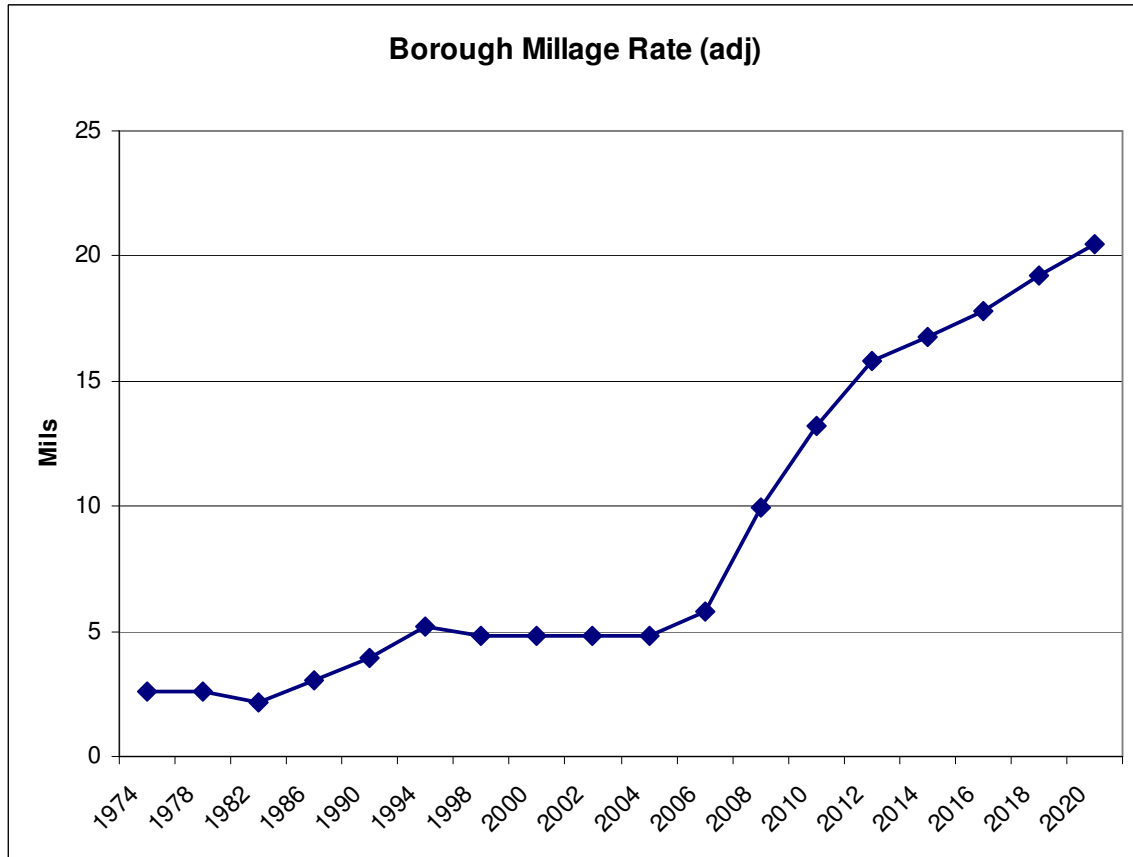


# Planning for Needed Housing Growth and Development

## Indian Lake Borough

2010-2020

In early 2008 Indian Lake Borough Council asked the Planning Commission to assess the Growth and Financial Development needs of ILB, essentially a re-work of a similar study performed in 1994. In August the PC issued its report, entitled Strategic Review of Growth and Financial Development Needs; 2010-2020. This report identified a number of financial issues, projected the need for substantial revenue increases to resolve them, and provided numerous alternative strategies to increase revenue yet avoid more than quadrupling tax rates. The below chart, from the August 2008 Study shows the impact on millage to be expected if no growth or added revenue occurs. We can do many things to re-distribute this burden differently, but unless we build our tax base by major remodeling, turning vacant properties into residences, or turning property owners into full-time residents, the burden will continue to fall to the same pool of property owners.



Long-term growth in the tax base is key to revenue growth without overburdening the existing residents and property owners, and the only strategy which can legitimately be influenced by the Planning Commission. As a result, Council asked the Planning Commission to study the Growth Projections and Needs identified in the August 2008 report in greater detail, focusing on sustaining growth of 3-4% per year and rigorously assessing the infrastructure needs/costs (if any) to support such plans.

Questions to be answered by this study are:

- How much growth is realistic?
- Can we sustain 20 homes per year development rate now?
- Is our infrastructure adequate? (Consider roads, water, sewerage issues, boats on the lake, boat docking, lake access and lake traffic)
- What can ILB do to facilitate this growth?
- What can ILB do to control growth rates, quality and community appeal? (in other words, avoid negative impact on community aesthetics, property values and traffic)

This report is presented in 6 sections, each addressing these questions, with supporting facts and analysis, and with a section providing a summary, conclusions and recommendations. The short answer is “Yes, we can!” but not everyone will agree with all that it may take to get there...

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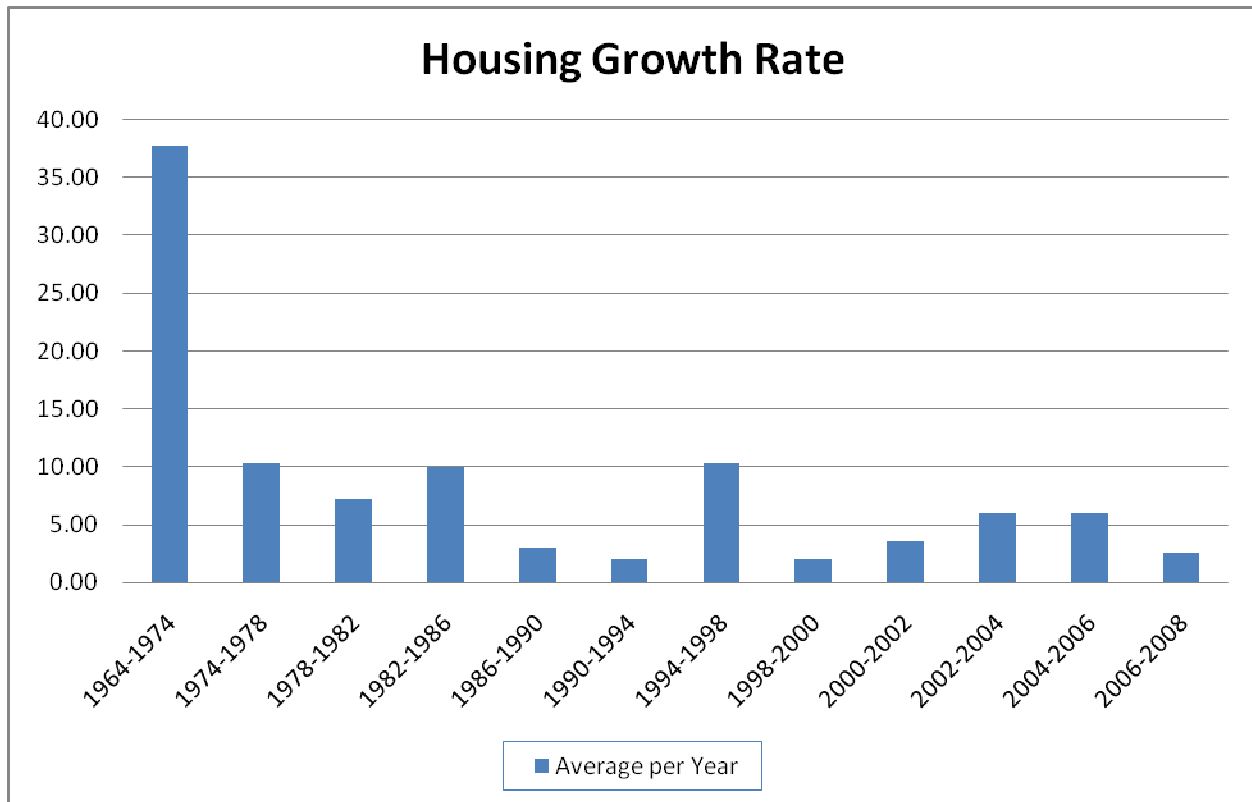
Bob

## I. Realistic Growth

New home growth **averaged** nearly 40 homes/year in the first ten years of development, and nearly 10 homes/year over the following 12-year period. Over a 22-year period (1964-1986) the average was more than 22 per year. Recently we've been in the 2-4 homes/year range, less than 1%. In 1994 a study similar to this concluded renewed growth was needed, and though a correlation cannot be proven, growth again spiked over the next 4 years to over 10 per year. (See chart, below for detail)

For this study we contend that 30 homes/year (~5%) cannot be considered an unrealistic upper bound. We cannot grow at that rate forever, but for a decade or two, particularly if we can resolve sewage issues and regain a strong economy/market, it's doable though maybe not sustainable. We continue to believe a lower number, 15-20 homes/year, is realistic if we enable and support it as a strategy.

We also can achieve some growth in the tax base through major remodeling and upgrades to existing homes.



## II. 15-20 Homes/year; how long can that last? Do we have that many vacant lots?

There are 400+ platted R-1 buildable lots along existing roads and accessible to water lines. There are upwards of a hundred acres of 'acreage' that was never subdivided into platted lots before the original project went bankrupt. At a growth rate of 20/year we can continue for 20+ years. The August 2008 Growth and Finance study showed that 15-20 homes per year **starting now** could help cap the rise of taxes, and begin to return it to current levels, or even previous levels, in ten years. Again, 20 homes per year is 1/2 of our average in the first 10 years as a

community, and an even smaller fraction on a percentage basis. The Planning Commission therefore believes the question is a market/marketing issue, not a planning or viability issue. Borough planning should continue to use 15-20 homes per year as an estimate, and millage increases/adjustments can continue to be made if actuals miss that mark. The impact of remodeling was not included in the estimates in the August 2008 study, but can only help. [The previous August 2008 Growth and Finance study is available on-line via the Planning Commission web site at [www.indianlake.info](http://www.indianlake.info) ]

### III. Infrastructure; Can our infrastructure support the needed growth, or will there be even more hidden expense?

This is an important question and we tried to answer this in terms of the infrastructure pieces:

- **Sewerage Issues-** Sewerage is our big issue. It is clearly the single most limiting obstacle, and has traditionally been nearly debilitating with respect to housing growth. It has effectively stopped/controlled development for 35 years. There are new, technically sound options if we choose to put renewed emphasis on this. Act 537 puts this in the realm of Borough control.

This is a complex topic with an equally complex history. Attachment 1 provides a detailed discussion of this history and summarizes the issues. The bottom line is that there are some exciting new options approved and approvable that can remove this as an insurmountable obstacle. There is now hope.

- **The Lake-** Inarguably the most valuable item of 'infrastructure' at Indian Lake is Indian Lake itself. A recent comprehensive study of the Lake's water quality has found it to be one of the cleanest lakes ever studied by DEP, and perhaps the cleanest private lake in the Commonwealth. This is a testimony to the stewardship of our predecessors, and preserving that legacy is a challenge to us all going forward. The actual DEP lake study/report, with some reflective analysis as a preamble, is provided as Attachment 2.

Protecting the dam has been a major current undertaking and we are all aware of its importance; that guarantees we have a lake. Preserving the Lake's water quality must also stay in the forefront. The DEP study not only provides a big thumbs-up conclusion, but also provides a ton of data from which we can draw insight. The data shows where **margins** exist and areas where we can or should focus to **keep** Indian Lake pristine. Our analysis of the data, and some follow up discussions with DEP, yielded some specific suggestions in terms of wetland preservation, sediment and erosion control, the importance of landscaping and fertilizer controls/practices, the positive impact of our sewage inspections, and the obvious merits of continued sewage discharge controls/limits. One surprising fact is that Indian Lake's water quality is actually **better** than the two main incoming tributaries (Clear Run and Calendar Run; see Attachment 2 for details and discussion). Our watershed (all area feeding the lake and its tributaries) is around 14.5 square miles, only a portion of which lies within the Borough's boundaries and the rest is beyond our control; what is important though is that it is not beyond our **influence**. With our lake water quality being driven by the tributaries, and most of our watershed outside of our control, we need to partner with the surrounding communities to keep it clean or to make any improvements. [Substantial improvements are not necessary, and in fact could be harmful to the types of fish we've stocked; see Attachment 2 and its references for some discussion]. We are in an excellent position to gain influence now, proactively, before we absolutely need to. Planning Commission

recommends Council consider formation of an Environmental and/or Watershed Protection Committee to explore extending our influence, proactively.

The study also shows that Lake Stonycreek is in good shape, but without the clear margins of Indian Lake. It also demonstrates that Indian Lake's outflow largely determines their water quality; without Indian Lake's contribution they would almost certainly be much worse; our margins dominate their margins. If Stonycreek Township will work with us on Calendar Run and Clear Run, it will also help Lake Stonycreek.

Preserving the Lake's high water quality may also open up some funding sources as a means of protecting it. Indian Lake **could**, should we choose to pursue it, be classed as either High Quality (HQ) or even Exceptional Value (EV) waters. State and Federal funding is available to protect HQ and EV waters. We need to be appropriately cautious in seeking such distinction, however, because we are a recreational lake community first and foremost. The Aquatic Biologists at DEP are working on a follow-up to the Lake Study with some suggestions for us going forward. We should pursue DEP's suggestions (when issued...) and whatever assistance it may make possible.

Perhaps the best news came as we were putting the finishing touches on this report. DEP inspected the massive effort by Maust to widen and increase the slope on the back side of the dam and was very complimentary. The dam was declared structurally sound once again and removed from DEP's list of targeted 'potentially dangerous' dams. If the upcoming grouting to reduce seepage through the dam is equally effective, the dam should be in good shape for many years; a relief to us all (except we still have to pay the bills).

- **Roads/traffic-** There are 28 miles of roads in Borough. We have found assertions, mostly common sense, that road maintenance/cost is a function of age, of heavy traffic, of design, of initial construction, of the environment, and of upkeep and maintenance practices. What we were not able to find were any set formulas, standards or 'algorithms' for correlating these to residential development, growth or use. Of all the factors, residential traffic seems less a factor on our roads. We receive liquid-fuels tax revenues from the state, for example, based solely on miles of roads, with traffic not a factor. For the most part, we believe roads are adequate for currently platted lots served by existing roads.

A small number of the notional development plans would involve new roads (a few miles, tops). These would be built at developer expense and later dedicated to the Borough for maintenance. Solid standards and requirements for these new roads should mitigate maintenance costs based on design, construction, environment and upkeep.

One correlation between development and road maintenance costs became very obvious with the dam remediation work and the havoc the heavy trucks caused along their 'local' routes. It is clear our local roads are not designed for such steady, heavy pounding. Trucks of that size should not be required for residential housing development and we should consider weight limits or other restrictions to protect against it. Some local roads already have weight limits posted. Weight limits on local roads 'except local deliveries...' is commonplace (at least the signs are...) in many communities. Enforcement and collecting road maintenance revenues can be explored but is expected to be difficult. We note Council recently commissioned a study to address consistent weight limits and enforcement.

We hear that road maintenance, in the minds of some, leaves a question as to whether adequate ongoing budgetary provisions have been made. Those who argue this say that when road maintenance is performed it is done well, but that the interval between maintenance is too long, citing the lack of maintenance of berms and proper drainage. The argument is that if roads were a bit wider, less deterioration of berms would occur since now vehicles regularly run onto the berms to safely clear oncoming traffic. It would appear that this argument applies mostly to our main road sections where the speed of traffic is faster as opposed to park or access roads. While we understand and may agree with this assertion, and perhaps the need for further study, we see this as separate and independent of new development.

Lacking any crisp correlations to the contrary, or any real expertise, we believe our local roads should not be cause for restraining development, and growth in the order of 15-20 homes/year, and the corresponding increase of our tax base, should more than cover any margin of error in our judgment. The relevant risk of new development is the heavy coincident truck traffic, already being addressed.

- **Water-** There are two wells and pump stations feeding public water to the Borough. There is a third well at Wenatchee which is not in use currently. Each well is rated as to its capacity, and at present we are pumping well under 50% of the capacity of each well. The wells are currently capable of producing much more than what is now being pumped and used.

Specifically, Well #99 is capable of producing a maximum of 288,000/day. Well #2 can produce 57,600 gal/day maximum. Currently Well #99 only has to produce 100,000 gal/day on average, and Well #2 only 18,000 gal/day on average, to meet demand. We use a little more water during the summer and less in the winter. With the average household using approximately 62 gal/day we feel we are well within our water limits to meet a growth rate of 15 to 20 homes per year. Of course the well at Wenatchee could also be put back in service if needed.

We do note that pressure/flow problems exist during peak periods but this is a pressure control issue and not a capacity issue. Today, water pressure (and flow) are governed solely by the level of water in the tank relative to the location of a given home, less the pressure dropped due to flow in some lines which are too small. There are methods of better controlling pressure that have no bearing on capacity or stored volume, and lines which are too small need to be upgraded whether or not we have new development. These two issues can perhaps be investigated and addressed in conjunction with new development - primarily on the peninsula. It is permissible for a municipal water authority to charge or 'tax' a developer for system upgrades made necessary by a planned development, and 'teaming' is possible whereby general improvements are installed in concert with development-specific improvements, with economies-of-scale benefitting both the developer and the community. Generally the 'tap-in-fees' are structured only to support small 'incremental' development.

In summary, no major upgrades due only to new development are apparent. New development does present some opportunities to share expenses and obtain some benefits and revenue in conjunction with growth. Planning for upgrades proactively can mitigate incremental costs. Public water supply should not be a reason for restraining development and the increased tax base, combined with major developer contribution, should cover any upgrades or any margin of error in our judgment.

- **Boat Docks-** The original premise and promise to lure buyers was “1500 homesites, each with a place to dock a boat.” The premise has apparently been altered over the years to “every property owner can use the Lake”, but the limited number of available docks tends to control such use. A similar 1992 study rationalized that fairway homeowners want only golf, and a limited number of docks was considered a tactic at that time to limit Lake use. If growth is to be achieved, we must assume anyone buying a property in our Borough will want the opportunity to have a boat and a place to dock it. The Marina owner stated that dock space is still available now, and if needed an additional 20 to 30 docks could be added over present capacity. This information seems to indicate “Docks” would not hinder future growth and does not pose a problem for a few years, anyway.

However, having only one ramp and limited parking at the Marina is an issue currently that will need to be addressed going forward.

- **Lake Access-** We currently have only one public boat ramp. Available “commercial” docks are also constrained, but each year the Marina has docks available to rent and plans in place to add more if demand exists. If we want growth we may need to address expanding access by adding another ramp, on the north-west side of the Lake, ideally. Docks can be added at the Marina and demand due to new development would clearly bring welcomed cash flow to the Marina. To generate demand to meet capacity we need to turn undeveloped properties into homes, and non-residents into residents and make launching and docking more convenient. Easy access to the Lake is perhaps the best tool we have to stimulate our local housing market and economy, and thus build the tax base. (Viable Golf Courses will help, too as it is often correctly pointed out that we are a lake **and** golf community; this is addressed below).
- **# Boats/traffic-** With renewed development and improved Lake access, we may need to address increased boat traffic. We seem to believe that traffic is now too high, yet we have no peak time statistics, and that assertion seems counterintuitive to some lake users. We are working to gather statistical peaks. Clearly, these high traffic periods of concern are really limited to holiday weekends and peak summer Saturdays and Sundays. All other times have usage that can be classified as below any real traffic concern, or light usage. We are approaching 1400 boats licensed for use on the lake (see chart below). We average >2 boats/home. We have families with 5 or more boats/PWC and many with 3-4. This is representative of a potential problem; that being if a large number of those permitted boats is used at the same time. Controlling this suggests perhaps two strategies; is the control properly based upon potential number of boats available for use? ; Or is limiting potential time of usage by type of boating activity and thereby limiting overcrowding the best strategy? Information about “standards” for allocation of water surface needed for a particular type of boating activity is available. The application of an estimate of a typical peak period boating-type-mix will perhaps yield the determination of when overcrowding will occur, and what types of boating activities are compatible during the same times. Data gathering will be needed for the achievement of accurate estimates in this area, and the Service Corp is trying to gather that data this summer.

The DEP Lake water quality study (discussed elsewhere) revealed a surprising fact; for years Indian Lake has been stated as being 750 Acres. The Somerset County Tax records list it as 730.7 Acres; close enough... The DEP study revealed that the Lake is actually just under 500 Acres, using official USGS maps. Believing that to be wrong and dutifully setting out to clear the “error” up, we instead confirmed the DEP number is reasonably accurate, and may actually be a bit high. The 30+ percent delta cannot be ignored, and the revised acreage and the estimated ‘useable’ boating acreage will be factored into the Service Corp study. Traffic and traffic controls in the narrowest areas needs to be addressed as well.

	#	\$/per	\$
Primary Powered	700	50	35,000
Primary Non-Powered	5	15	75
General	40	600	24,000
Secondary Powered	289	150	43,350
Secondary Non-Powered	<u>345</u>	15	<u>5,175</u>
TOTALS	<b>1379</b>		<b>107,600</b>

#### 2008 Boat Licenses and Revenue

We also note that in the past we have shunned boat/PWC rentals at the Marina, yet this could actually become a revenue source for both the Marina and the Borough (via licenses and/or a tax). The view, for many years, has been that rental users pose a higher threat to safety due to unfamiliarity with our lake and unknown levels of safety training. Safety aspects are improving each year as regulation requires a higher level of safety training for boat and PWC operation, and specific training on our local regulations and etiquette by Marina staff could be a requirement for rentals. Our posture on boat/PWC rentals (during non-peak periods) is worthy of reconsideration.

- **Attractions/Businesses/Recreation (Golf, Marina, Lodge, etc.)-** The existing local businesses, (the Marina, the Lodge, and the Public and Private Golf Courses) can benefit the community in two ways, while also benefiting themselves. Thriving businesses are good for growth and growth is good for our local businesses. Every local business supports an increase in growth and development within the Borough.
  - 1) We believe healthy local businesses can help lessen our tax burden, and without penalty to themselves. For example, the Finance Committee should investigate Business Taxes. We are recommending taxes that are not a burden on the businesses themselves, but taxes that are passed onto their customers, mainly visitors to the borough. For example, a lodging tax on room rentals in the Lodge. As



we travel we all pay these elsewhere, we are quoted a room rate of \$120.00 and when we check out we are billed \$137.50 which includes this and that hidden local tax. Other examples could be an entertainment tax on rounds of golf, a rental tax on boat rentals (perhaps even on housing rentals). We recommend that these and other types of pass through taxes be looked at by the appropriate committee. Nominal taxes on such things are the norm elsewhere and a reasonable tax should not hurt the draw.

- 2) We further recommend that an Indian Lake Chamber of Commerce be formed and fostered by the borough. A member of council could serve as a facilitator to forming the Chamber and keeping it active. The goal of this Chamber would be the same as any community's Chamber of Commerce, foster and grow the businesses and the community. A prime tool could be joint marketing; billboards, signs, and newspaper advertisements featuring all the businesses and the community as a whole. A brochure featuring the business, the Lake, and listing our real estate firms (perhaps including outside advertisers for a fee) could be prepared. Open houses could be held with special discounts by the businesses and tours, by land and water, of the community. Planning an 'event' for a weekend between the 4<sup>th</sup> of July and Labor Day would give us a 4<sup>th</sup> "Holiday" weekend during the summer which we could all celebrate as a community and one without pressures for some of us to be elsewhere. It could be argued that this is not Council's role, but leadership is and Council or the Mayor can take a leadership role in establishing such an annual event, if nothing more than by proclamation.

#### **IV. Allowing it to Happen; what can we do?**

- We can agree, facilitate, allow, support, team, encourage, lead and incentivize. Sewage/sewerage is the key, and we believe more 'active' support is necessary. Healthy local businesses are important to the community and to its allure. We need to turn vacant properties into attractive homes. We need to encourage non-residents to become residents and active members of the local community. A healthier tax base will be a natural consequence.
- The need for development to curb sharply rising millage rates is unmistakable, but requires some analytical explanation and a proactive posture. Ignoring it early costs us all that much more, later; you can't play catch-up once the opportunity has been passed over and lost. This will be the toughest part of 'selling' a plan for facilitating increased development. We cannot appear confused or disjoint on this key point; we need to be clear and it needs to be well understood. We need to demonstrate we have control of the rising tax situation and that we can return to 'normalcy' while still covering our debt for the dam in the near future. Healthy finances and low taxes are not the business of the Planning Commission, but growth and development is, and one clearly depends on the other.
- Before we can sell stronger growth to the residents, voters, and property owners we need to start with ourselves. We have suggested some items above which can help build enthusiasm.

#### **V. Necessary Controls**

Growth brings fear and real risk of changing our (or any) community. Controls are necessary to preserve that which is most important. Below are a few factors the Planning Commission believes are in that 'most important' category:

- **Quality/Aesthetics-** Zoning, and other ordinances serve as our most direct means of control, and good work is well underway restructuring our Zoning Ordinance. The MPC allows us latitude to work more closely with developers. We can always incentivize what we can't legislate. Controlling quality and aesthetics has not been a problem at Indian Lake and there is no evidence modest new growth will change that and put it at risk.
- **Boat Traffic-** Increased boat traffic with new growth and development is a valid concern. We can consider new rules, we can plan ahead, we can enforce limitations, and we can use supply/demand and free-market dynamics to our benefit. We've heard the phrase "We don't want to become another Deep Creek" often, referring to overcrowding and excessive controls. We can learn from what they've done proactively, picking and choosing what we like and what works best for us, rather than waiting and having to take similar 'corrective action'. Above all we must remain safe, at all times and for all activities.
- **Nutrients -** Indian Lake is one of the best in Pennsylvania. We need to preserve that, and for all of our recreational uses. There is currently a substantial margin to eutrophication and to any 'alarm points' of the Lake as a whole, and we need to preserve (or improve if possible) those margins. Our Lake quality is driven by our watershed and tributaries such as Clear Run and Calendar Run. Decreases in our Lake quality can drive Lake Stonycreek into a problem zone as their margins are less and largely dependent on us maintaining ours. We can and should find ways of influencing others in our watershed to become good stewards. We can start by communicating the positive results of our own past stewardship, and maintaining our leadership edge in this regard. Forming an intermunicipal 'Watershed Alliance', or similar might be a way of doing that proactively. We should try to influence what we cannot control. We recommend Council consider our suggestion to form an Environmental and/ or Watershed Protection Committee to explore ways of extending our influence.
- **Equity-** We need to ensure we plan for balance in community allure, and not draw arbitrary distinctions between "residents" and "non-residents"; "homeowners" and "lot owners"; "lake-front" and "fairway" and "back-lot" owners, and the access and privileges they are entitled to. Previous studies have made claims such as "Fairway property owners want to golf, they don't want to use the Lake that much". That may be true in some cases. It most certainly is not true in others. What is certain is that it should not be, or ever become, a Planning assumption. This is within our control.
- **Weight Limits on Roads-** Consistent signage for the 10-ton weight limits is recommended, with consideration of some sort of paid permitting, combined with enforcement and fines for violations (no permit). The heavy trucks seem to cause the most damage, and some way to have them pay to repair the incremental damage they create would be fair (though difficult to truly assess). We note Council is currently addressing this issue of consistency and enforcement.

## **VI. Summary and Conclusions**

**In summary, we believe we have validated that growth and development is needed to curb the tax increases otherwise needed to pay down the dam debt into the future. We continue to believe 15-20 new homes per year, combined with remodeling and upgrades to existing properties, is necessary, and is a viable strategy to increase our tax base. New sewage disposal options recently approved can remove the single largest obstacle to achieving renewed growth, leaving only marketing and the economic recovery in the way. We need to turn vacant lots into homes and encourage non-resident property owners to become new residents.**

**We believe our infrastructure is sound and can accommodate our growth projections, and that the increased tax base can cover any margins of error in our judgment. That is not to say that planning for some incremental upgrades is not required, but if properly planned, they can be done synergistically and coincident with the growth and development with limited incremental cost.**

**There may need to be some controls/limitations placed on boating (type and time restrictions for activities) as we grow to maintain safety and also equity for all property owners. These limitations surely won't be universally popular, but they could be made fair and equitable if indeed found necessary; we should know more from water traffic surveys to be taken this summer. Other communities have managed this and we might learn from them what has worked and what has not.**

**More good news is that, concurrent with completing this study, DEP concluded their 2+ year long Lake Study, analysis, and report; Indian Lake is one of the best lakes ever studied in the Commonwealth of Pennsylvania, and actually has a net positive impact on the downstream environment, particularly Lake Stonycreek, and as compared to our major tributaries. That's profound, and both a tribute to nearly 50 years of stewardship, and a daunting legacy to protect going forward. We have made some suggestions along the way of things we can do or consider to protect the Lake going forward.**

**Perhaps the best and latest news is that DEP has inspected our dam work to date and Indian Lake has been removed from their 'endangered' list. Considering this, the 'breakthrough' on the SFTF-HT sewage option, and the outstanding results of the DEP Lake Water Quality Study, it appears that our ownership and stewardship of environmental concerns is being recognized by DEP. Having credibility with DEP can have positive impact as we tackle future challenges.**

**We offer specific suggestions on building (rebuilding) community identity, and enthusiasm. One is fostering/facilitating the formation of a Chamber of Commerce; the other is establishing a 4<sup>th</sup> "Holiday" weekend between July 4<sup>th</sup> and Labor Day to showcase our community and help to spark and sustain growth. Down the road this could be turned over to the newly-formed Chamber of Commerce.**

**We sincerely hope that this study, in conjunction with the August 2008 study on Growth and Financial Development Needs, can play some positive role in guiding the Borough's planning for the next decade.**

## **Acknowledgements**

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Robert Oates

Sewage and Sewerage issues at Indian Lake

When Indian Lake was conceived and development began, individual on-lot septic tank and leach-field systems served the homes. These were permitted locally. All that changed at about the time the Lake was granted Borough status in 1966.

Act 537

Act 537 was enacted in early 1966. Directly from Act 537, the purpose was/is:

- (1) To **protect the public health, safety and welfare** of its citizens through the development and implementation of plans for the sanitary disposal of sewage waste.
- (2) To **promote intermunicipal cooperation** in the implementation and administration of such plans by local government.
- (3) To **prevent and eliminate pollution of waters** of the Commonwealth by coordinating planning for the sanitary disposal of sewage wastes with a comprehensive program of water quality management.
- (4) To **provide for the issuance of permits for on-lot sewage disposal systems by local government** in accordance with uniform standards **and to encourage intermunicipal cooperation** to this end.
- (5) To provide for and insure a **high degree of technical competency within local government** in the administration of this act.
- (6) To **encourage the use of the best available technology** for on-site sewage disposal systems.
- (7) To **insure the rights of citizens on matters of sewage disposal** as they may relate to this act and the Constitution of this Commonwealth.

Act 537 requires municipalities to develop plans for public sewerage, specifically:

“Each municipality shall submit to the department an officially adopted plan for sewage services for areas within its jurisdiction within such reasonable period as the department may prescribe, and shall from time to time submit revisions of such plan as may be required by rules and regulations adopted hereunder or by order of the department”

Act 537, in conjunction with Act 394 of 1937 (Clean Streams Law), both as currently amended, form the basis for the myriad DEP rules, regulations, guides, handbooks, manuals, and forms governing sewage treatment and disposal, and sewerage planning. These supplemental requirements and regulations total tens of thousands of pages. Most notable of these is PA Code Title 25, Environmental Protection.

Act 537 and the DEP regulations it spawned, in conjunction with the soils and water-table around the Lake, brought an end to simple leach-field systems. Some tough amendments to the regulations in the early 1970s made relatively costly and unsightly 'sand mounds' the norm, and **only** on the few lots that would 'perc'.

### **Indian Lake and the Impact of Act 537**

Indian Lake, at its inception, was intended, and marketed, as a private lake with 1500 homesites/ residences. Indian Lake received Borough status in 1966. Prior to all properties being sold, in the late 1960s/early 1970s, problems began arising with the newly enacted regulations for on-lot sewage disposal. Existing homes at the time utilized simple leach beds and have been 'grandfathered' to this day. Due to soil conditions, many sold and unsold lots would not pass the 'perc' test requirements for any approvable on-lot alternative, and were found to be unsuitable for building. The stated basis for the regulations was ground water contamination in our poor-drainage soils. A **Public Water System** was constructed with the belief (some say a promise) that this would allow continued permitting of on-lot septic systems, but this proved short-lived and hollow, with even further tightening of requirements through the early-70s. By the early to mid 1970s, lot sales halted, lawsuits were initiated, and the owners of the development filed for bankruptcy. Property development has been limited, primarily by "allowed" sewage options, since that time and the Indian Lake area remains <40% developed; more than 60% of the original 1500 properties remain undeveloped.

Currently there are approximately 1100 of the planned 1500 properties sold and individually owned. Some of the other properties are 'acreage' comprising planned lots never subdivided and individually platted. There are dwellings (residences) on approximately 590 of these properties. Less than half of these are permanent (year-round) residences, the rest are seasonal.

### **Indian Lake Act 537 Plan for Public Sewerage**

After 40 years without an Act 537 Plan, and a half dozen attempts, the Borough of Indian Lake obtained approval of an Act 537 plan in 2006. The plan, as approved, included the required provisions for new property development. Despite expectations that the plan as worded does/would provide new avenues for new development, the permitted de-facto implementation still precluded many property owners building upon, and thereby using, properties intended for homes and businesses.

The approved Act 537 plan provides no specific "plan" (milestones) or schedule for public sewerage, and presumes implementation will not actually occur over the next one to two decades.

## Current Sewage Issues at Indian Lake

The Indian Lake Resort (3 restaurants/lounges, 32 hotel rooms and banquet facilities), approximately 30 townhouses, a handful of single-family residences, and some proposed new developments on the Resort property are served by the Lakewood Sewage Treatment Facility, originally built for the Lodge (now the Resort) and turned over to the Borough in the 1970's. This 12,000 gallon/day facility discharges directly to Indian Lake under a DEP permit. Currently the Lakewood plant has minimal discharge limits; there are no phosphorus or nitrogen limits or controls, making it an ongoing target of DEP. Nitrogen and Phosphorus are nutrients which support weed and algae growth, termed eutrophication.

DEP has recently concluded a 1-2 year long study of the health (eutrophication; weed and algae growth) in the Lake to determine the concentration and sources of phosphorus (primarily) and nitrogen. Most common sources of these nutrients are failing or poorly designed septic systems, excess golf-course and lawn fertilizer/run-off, and sewage treatment plants without nutrient controls. Results should be available ~mid-2009, one year beyond the original DEP plan/promise of early 2008. [If the study or studies are released they will be added to this report]

The Borough has instituted a plan to inspect existing on-lot systems for problems on a periodic, rotating basis.

Owners of undeveloped property wish to influence the Borough's posture on new development, new sewage treatment options, or the urgency for public sewerage planning. Residents generally have grandfathered systems which do not meet current standards, but are equally concerned over failures after 40+ years of use, and with the new required inspections.

## Small Flow Treatment Facility (SFTF)

DEP developed and issued the Small Flow Treatment Facility (SFTF) Manual and the concept of General NPDES Permits and standardized forms to streamline the approval process and provide new options for many properties with otherwise unsuitable conditions. Small Flow Treatment Facilities are on-lot treatment plants which meet stringent effluent limits. They are designed for lake, stream, dry stream channel, and controlled surface discharge. There are 2 SFTFs within the Borough discharging directly to the lake, and a third in progress. These are permitted to correct malfunctioning conventional systems and have no phosphorus or nitrogen controls or limits; such controls or limits are specifically not required for correction of malfunctioning systems.

Today's typical SFTF effluent is ~20% of DEP allowed limits, and approximates EPA drinking water standards. Added nitrogen and phosphorus controls are also possible. Each standard SFTF must be individually and specifically permitted by DEP. (The **discharge** requires the NPDES permit, **not** the SFTF itself).

Though the approved Indian Lake Act 537 plan has the required provisions for SFTFs for new property development, the Borough has been reluctant to actually endorse them, even with added phosphorus and nitrogen controls. DEP cannot (will not) act without Borough

endorsement. To protect a property owner's interests, Act 537 provides a litigious path to force DEP to act **without** Borough endorsement, which has not been attempted at Indian Lake. This option has not been pursued since property owners do not want to get entangled in lawsuits with the Borough, only to have fellow property owners then have to foot the bill; not a good way to make friends. Additionally, there are merits to the weed growth and eutrophication concerns that bear further investigation. The Borough spends \$30-40K annually to combat nuisance weed growth in some areas.

The DEP Lake Study, recently completed and issued, was required of DEP to resolve the potential and perceived eutrophication issues and concerns with hard data. The results will determine whether nitrogen and phosphorus controls are indeed needed on new and existing discharges, and if so, the limits to be imposed on them. This includes using SFTFs for new development; Treatment plants and SFTFs **with phosphorus controls** are still permissible by DEP even with evidence of eutrophication, but only if there is no other option which supports property use and development.

### **Raw Sewage Holding Tanks**

Raw sewage holding tanks are viewed as a last resort option. DEP reserves use of raw sewage holding tanks for temporary use, in correction of malfunctions, and for new development only when public sewerage is imminent. The Borough will not permit raw sewage holding tanks for new construction/development. They are not required to, even absent a plan for public sewerage. Storage and transport of raw sewage poses a health risk and social stigma.

### **New Agreement With Shade-Central City Joint Authority**

The Shade-Central City Joint Authority (SCCJA) voted, with support from DEP, to allow Indian Lake Borough and its residents to transport and discharge **treated** (potable/near potable) wastewater, such as from a community or on-lot SFTF, at their facility at a very nominal charge. Treated, chlorinated effluent is odorless and poses no health risk; it can be safely handled and transported without a permit (more so even than garbage pick-up...). Details have been worked out with SCCJA, and an Intermunicipal Agreement signed. DEP has supported SCCJA in their decision as this sort of municipal cooperation is a fundamental tenet of Act 537 and approval was obtained in early 2009. DEP has encouraged revising the Act 537 plan to allow **local** permitting of SFTFs under this arrangement, and to permit holding the treated effluent in community or on-lot storage tanks for pick-up. This will allow permitting for new development to occur in a couple of months versus years, and make correction of malfunctions far more expedient. This provides an exciting new 'hybrid' on-lot treatment/public disposal option for Indian Lake property owners at reasonable cost. This new option has been developed exclusively with private funding by Indian Lake residents, through Musser Engineering and SCCJA. The plan requires **no public funding** and will be supported solely by sewerage fees paid by owners of homes and properties served under the plan. A DRAFT proposed revision to the Act 537 plan is currently being reviewed to accommodate extension. SCCJA would like some 'run time' before an extension is approved. **This plan addresses all 7 of the fundamental tenets of Act 537**, and as a result was approved by DEP.



## **Summary**

Due to concerns over the health of Indian Lake, and lack of a near term public sewerage plan, individual lot sewage options available and approved elsewhere are not endorsed by the Borough for new development and thereby are not permitted for Indian Lake property owners (except for remediation of failing systems). Clearly the Borough seeks sewage treatment solutions which **cannot** contribute nutrients to the Lake, such as public sewerage discharging downstream of the Lake or holding tank scenarios where discharge is likewise away from the Lake. A Hybrid SFTF-HT system is now approved. Other creative new approaches for on-lot and public sewerage are being proposed and are currently being evaluated further.

Property owners are encouraged to become familiar with these approaches as they will likely require public support and comment in the coming months, from both resident and non-resident property owners.

**Indian Lake is one of the best scoring lakes in the  
Commonwealth of Pennsylvania**

The one sentence summary from the DEP **Trophic State Index Surveys; Indian Lake and Stonycreek Lake; 2007** pretty much says it all. The entire report (scanned copy as provided by DEP) is attached only to the "official" signed paper copy of this report, or available separately at [http://www.indianlake-pa.net/indian\\_lake\\_report.pdf](http://www.indianlake-pa.net/indian_lake_report.pdf).

In November 2006 DEP announced that they had taken some baseline samples and concluded that Indian Lake was a candidate for a detailed Lake Water Quality Study to determine its Trophic State Index (TSI). Determining the TSI, along with other measured data, would allow informed decisions and recommendations by them (and us) concerning sewage and sewerage planning, weed control, and other environmental factors. The Study was to be conducted in general accordance with DEP Guidance 391-2000-010.

Throughout 2007 DEP visited and sampled Indian Lake and Lake Stonycreek on 3 occasions, and Calendar Run and Clear Run were sampled on numerous other occasions. Data was analyzed, and a TSI determined. TSIs range from 0 to 100, though a TSI of much lower than 30 or greater than 80 are very rare, and in fact can be alarming.

A TSI (Trophic State Index) of under 50 is excellent (called mesotrophic) and much under 40 is not good for most fish (called oligotrophic). Stream/Lake water with a TSI much under 40 could be classed as marginally drinkable. DEP actually uses 3 different methods to calculate TSI for each sample set, and then averages data for each method separately, but not the 3 methods together. The highest (worst case) TSI of the 3 methods is generally reported. The reported worst case TSI for Indian Lake is 47.37, ranging from 36.55 to 40.12 to 47.37 for the 3 separate methods.

Our nitrogen to phosphorus ratio is 37. A ratio of 15 (or above) is the limit for being "phosphorus limited"; higher ratios generally make the results more credible/accurate, and all bets are off if it's under 15. (A nitrogen to phosphorus ratio of under 15 is "nitrogen limited"; it is rare and a whole different ball-game in terms of control and improvement). The N/P ratio thus determines which nutrient controls are the most effective with P controls easier and far less costly. The TSI (worst case) of less than 50 says Indian Lake has margin to any limit where controls need be imposed; in fact Indian Lake **could** be classed as a protected waterway (either HQ or EV), and still not need controls on Phosphorus. It is really good that we have margin to any serious limit.

The only surprise in here is that Lake Stonycreek is almost as good. Lake Stonycreek TSIs are ~41, 46 and 47, with a worst case of 47.56. Throughout the process we kept hearing 'rumors' that DEP thought Stonycreek was going to be 'much worse'.

Both lakes are well below the phosphorus TSI limit of 50 where DEP could ask for controls on new systems or require them for HQ or EV, the 'warning point' of 65 where they might ask for controls on major sources (like Lakewood), and the 'alarm point' of 80 (where DEP must put us on notice and would have to force us to do something with all discharges). Again, it is good that we have good margins to any of these limits.

For some additional reading on TSI and lakes, try <http://www.mlswa.org/lkclassif1.htm> on the web.

In trying to digest where we need to focus to **keep** things good (what are our margins and what can we do, if anything to preserve those that are closest to limits?), we noted the following:

Of particular note is that the largest incoming sources to the Lake are Clear Run and Calendar Run. Secchi and Chlorophyll readings can't be done, or don't make sense, on streams and are therefore not calculated or reported. The total nitrogen, total phosphorus, N/P ratio and TSI of **both** streams are all **worse** than the Lake as a whole. Most importantly, nitrogen **and** phosphorus in both streams being higher than that of the Lake implies that the plant growth we have in the Lake is sufficient not only to accommodate (biological uptake) all of Indian Lake Borough's added nutrient loads, but then some. Indian Lake has a **net positive impact** over the tributary waters, and on downstream Lake Stonycreek which might otherwise actually be eutrophic. **Indian Lake is having a net positive impact on the downstream environment.** That's pretty profound. Our outfall dominates and actually serves to improve Lake Stonycreek.

Several data elements in the study appear to be 'suspect'. The Lake is reported to be 498.6 acres versus the claimed 730+ acres (Somerset County Tax Database, among other less formal documents). The detention time of 457 days (the Lake would take 15 months to fill up if empty) is seemingly overstated. Both facts are worthy of calibration. Both of these enter into the DEP calculations only for calculating phosphorus limits, but appear irrelevant as no limits are calculated, needed or imposed. **If** limits were necessary, and **if** those numbers were corrected, it would have a small net positive impact on the results (Lake could handle slightly higher P-loading). This says our margins would be perhaps a bit understated in those eventual calculations. This would only be relevant for a potential day when DEP considers imposing lake-discharge limits; hopefully a day that never comes. Another error seems to be in the size of the respective and combined watersheds. The report shows Indian Lake's watershed as 13.7 square miles when it is approximately 14.5 (not major), but they state that Lake Stonycreek and Indian Lake have a combined 13.7 square mile watershed; Lake Stonycreek's watershed is approximately 13 square miles **plus** Indian Lake's 14.5 miles for a combined total of 27-28 square miles. A map of the watersheds follows the DEP report, attached.

We are very pleased that DEP gave us the data and not just the 'summary' results and a 'thumbs-up'. It gives us so much more insight.

Interestingly, had we been classed as eutrophic (TSI>50), DEP regulations might require they come back every 3 years for a 'check-up'. That doesn't mean they won't if they want, but they don't have to. The only trigger point might be a very large number of new lake-discharges or a large-scale Lakewood upgrade [either could result in a

'calculated' trip up over the 50 TSI limit]. Our lowest (best) TSI is on Phosphorus and our margin on Phosphorus is more than 10 'points'. That's huge...

THE DEP STUDY IMMEDIATELY FOLLOWS IN THE PAPER COPY FOR BOROUGH FILES (ONLY). IT IS A RATHER LENGTHY, HIGHLY TECHNICAL SCANNED DOCUMENT (31 PAGES; 1.5MB PDF FILE) AND IS NOT INCLUDED FOR GENERAL DISTRIBUTION.

A COPY CAN BE OBTAINED ON-LINE AT: [www.indianlake-pa.net/indian lake report.pdf](http://www.indianlake-pa.net/indian%20lake%20report.pdf) or by visiting the Planning Commission web site at: [www.indianlake.info](http://www.indianlake.info) [under INFO:Reports]